



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D212-664-201

Job Sheet 195366



Part No: D212-664-201

Job Qty: 1 pcs

Part Name: Aft Crosstube - High



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 5/21/19

Job Tracking No:

Due Date: 6/7/19

Created By: Jennifer Renwick

Type: Stock

Description: SIOP

Note: IIN-D212-664 REV.J/ D212-664-241 REV E IPP Rev:E 04.02.16 Reformat K/DS IPP Rev:F 06-03-29 Remove
Comments on Pick List JLM IPP Rev:G 07-04-30 As per Rev C JLM IPP Rev:H 08-05-22 up date Qty of rubber
cushion DD verf:EC IPP REV:I 14.05.27 AS PER ECN14-570 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Packaging 1 - Pick Kit	1 pcs		6/7/19	0.00	0.00	Packaging 1 - 1		
							Packaging 1 - 2		
							Packaging 1 - 3		
							Packaging 1 - 4		
							Packaging 1 - 5		
							Packaging 1 - 6		
							Packaging 1 - 7		
							Packaging 1 - 8		
							Packaging 1 - 9		
							Packaging 1 - 10		
							Packaging 1 - 11		
							Packaging 1 - 12		
							Packaging 1 - 13		
							Packaging 1 - 14		
							Packaging 1 - 15		
							Packaging 1 - 16		
							Packaging 1 - 17		
							Packaging 1 - 18		
							Packaging 1 - 19		
							Packaging 1 - 20		
							Packaging 1 - 21		
							Packaging 1 - 22		
							Packaging 1 - 23		
							Packaging 1 - 24		BB 5/29/2019
							Packaging 1 - 25		
							Packaging 1 - 26		
							Packaging 1 - 27		
							Packaging 1 - 28		
							Packaging 1 - 29		
							Packaging 1 - 30		
							Packaging 1 - 31		
							Packaging 1 - 32		
							Packaging 1 - 33		
							Packaging 1 - 34		
							Packaging 1 - 35		
							Packaging 1 - 36		
120	Crosstubes - Bend - 2 - B4B	1 pcs		6/7/19	0.00	4.44	Crosstubes - Bend - B4B		BB 5/29/2019
130	QC 15	1 pcs		6/7/19	0.00	0.00	QC 15 - 12		
							QC 15 - 3		

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D212-664-201/195366/5184969



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Container No: S184969



Part: D212-664-201

Job No: 195366

Serial No/Batch: S184969

Revision: E/J

Inspector:

Exp Date:

Instructions: TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA ST

					QC 15 - 47	
					QC 15 - 49	
					QC 15 - 58	
					QC 15 - 9	
					QC 15 - 68	
140 Crosstubes - 2 - B4B	1 pcs	6/7/19	0.00 2.00		Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
150 Crosstubes - 3 - B4B	1 pcs	6/7/19	0.00 1.00		Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
160 QC 7	1 pcs	6/7/19	0.00 0.00		QC 7 - 10	
					QC 7 - 13	
					QC 7 - 14	
					QC 7 - 15	
					QC 7 - 17	
					QC 7 - 18	
					QC 7 - 19	
					QC 7 - 2	
					QC 7 - 28	
					QC 7 - 3	
					QC 7 - 30	
					QC 7 - 34	
					QC 7 - 36	
					QC 7 - 37	
					QC 7 - 41	
					QC 7 - 47	
					QC 7 - 48	
					QC 7 - 51	
					QC 7 - 58	
					QC 7 - 59	
					QC 7 - 60	
					QC 7 - 9	
					QC 7 - 68	
					QC 7 - 50	
					QC 7 - 67	
					QC 7 - 40	
					QC 7 - 24	
					QC 7 - 43	
170 QC 5	1 pcs	6/7/19	0.00 0.00		QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
180 Outsource - 2 - NDT per QSI038	1 pcs	6/7/19			SKY002-VC	5
190 Packaging 2-1 - Receive - B4B	1 pcs	6/7/19	0.00 0.00		Packaging 2 - 1 - B4B	
					Packaging 2 - 2 - B4B	
					Packaging 2 - 3 - B4B	
					Packaging 2 - 5 - B4B	
					Packaging 2 - 4 - B4B	
					Packaging 2 - 6 - B4B	
					Packaging 2 - 7 - B4B	
					Packaging 2 - 8 - B4B	
					Packaging 2 - 9 - B4B	
					Packaging 2 - 10 - B4B	

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				Packaging 2 - 11 - B4B	
				Packaging 2 - 12 - B4B	
				Packaging 2 - 13 - B4B	
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 27 - B4B	
				Packaging 2 - 28 - B4B	
				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
200	QC 5	1	6/7/19	0.00 0.00	QC 5 - 10
		pcs			QC 5 - 12
					QC 5 - 17
					QC 5 - 18
					QC 5 - 19
					QC 5 - 22
					QC 5 - 24
					QC 5 - 3
					QC 5 - 43
					QC 5 - 49
					QC 5 - 51
					QC 5 - 58
					QC 5 - 68
					QC 5 - 9
					QC 5 - 50
					QC 5 - 30
					QC 5 - 40
210	Spray Paint - 2 - B4B	1	6/7/19	0.00 1.47	Spray Paint - 1 - B4B
		pcs			Spray Paint - 2 - B4B
					Spray Paint - 3 - B4B
					Spray Paint - 4 - B4B
220	QC 14	1	6/7/19	0.00 0.00	QC 14 - 15
		pcs			QC 14 - 2
					QC 14 - 34
					QC 14 - 41
					QC 14 - 51
					QC 14 - 58
					QC 14 - 59
					QC 14 - 9
					QC 14 - 68
					QC 14 - 40
					QC 14 - 19
					QC 14 - 43
					QC 14 - 24
230	Crosstubes - 4 - B4B	1	6/7/19	0.00 1.47	Crosstubes - 1 - B4B
		pcs			Crosstubes - 2 - B4B
					Crosstubes - 3 - B4B
					Crosstubes - 4 - B4B
240	QC 5	1	6/7/19	0.00 0.00	QC 5 - 10
		pcs			QC 5 - 12
					QC 5 - 17
					QC 5 - 18
					QC 5 - 19
					QC 5 - 22

DAS
JUN 10 2018
9-89

RD 19-6-10

AS 19-6-12

RD 19-6-12

					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	DAS JUN 17 2019 68
					QC 5 - 9	9-89
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
250	Packaging 1-2 - Pick Kit - B4B	1 pcs	6/7/19	0.00 0.00	Packaging 1 - 1 - B4B	
					Packaging 1 - 2 - B4B	
					Packaging 1 - 3 - B4B	DAS 74
					Packaging 1 - 4 - B4B	JUN 18 2019
					Packaging 1 - 5 - B4B	9-89
					Packaging 1 - 6 - B4B	
					Packaging 1 - 7 - B4B	
					Packaging 1 - 8 - B4B	
					Packaging 1 - 9 - B4B	
					Packaging 1 - 10 - B4B	
					Packaging 1 - 11 - B4B	
					Packaging 1 - 12 - B4B	
					Packaging 1 - 13 - B4B	
					Packaging 1 - 14 - B4B	
					Packaging 1 - 15 - B4B	
					Packaging 1 - 16 - B4B	
					Packaging 1 - 17 - B4B	
					Packaging 1 - 18 - B4B	
					Packaging 1 - 19 - B4B	
					Packaging 1 - 20 - B4B	
					Packaging 1 - 21 - B4B	
					Packaging 1 - 22 - B4B	
					Packaging 1 - 23 - B4B	
					Packaging 1 - 24 - B4B	
					Packaging 1 - 25 - B4B	
					Packaging 1 - 26 - B4B	
					Packaging 1 - 27 - B4B	
					Packaging 1 - 28 - B4B	
					Packaging 1 - 29 - B4B	
					Packaging 1 - 30 - B4B	
					Packaging 1 - 31 - B4B	
					Packaging 1 - 32 - B4B	
					Packaging 1 - 33 - B4B	
					Packaging 1 - 34 - B4B	
					Packaging 1 - 35 - B4B	
					Packaging 1 - 36 - B4B	
260	QC 4	1 pcs	6/7/19	0.00 0.00	QC 4 - 28	DAS 58
					QC 4 - 58	9-89
					QC 4 - 69	JUN 19 2019
					QC 4 - 9	
					QC 4 - 46	
					QC 4 - 68	
					QC 4 - 72	
270	Packaging 3-1 - Stock - B4B	1 pcs	6/7/19	0.00 0.00	Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	DAS 58
					Packaging 3 - 7 - B4B	JUN 19 2019
					Packaging 3 - 8 - B4B	9-89
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Plex 5/21/19 10:07 AM Dart.Renwick.Jennife.	

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				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	DAS
				Packaging 3 - 36 - B4B	21 JUN 19 2019
275 DC - 1 - B4B	1	6/7/19	0.00 0.00	DC - 1 - B4B	21 JUN 19 2019
	pcs			DC - 2 - B4B	
280 QC 21 - FG	1	6/7/19	0.00 0.00	QC 21 - FG - 21	DAS
	pcs			QC 21 - FG - 70	21 JUN 19 2019
				QC 21 - SA - 53	21 JUN 19 2019

Part Op 120 - NC Bend Crosstube (CNC Alpha 160 Bender)*VERF SET-UP BEFORE BENDING BY: ***

Descriptions: Bend tube as per Dwg D212-664-241 using CNC bender program 212-aft

130 - QC15- Crosstube Dimensional Check)

140 - 1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550, DT8551, drill table DT8577 and locate tower holes #8 as per QSI0010. 2-Ream hole to finish size in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes. 3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-241 4- ***WEAR LATEX GLOVES HANDLINE CROSSTUBE.*** Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

150 - HandFinish5 (Crosstubes Chemical Conversion) ***IMMEDIATELY AFTER GRINDING***

160 - QC7-1 (QC7-Inspect Chemical Conversion Coat)

170 - (QC5- Inspect part completeness to step on W/O)

180 - ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: _____ LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2

190 - (Receive & Inspect for Damage & Mat'l Certs) ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.***

200 - QC5- Inspect part completeness to step on W/O) ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Inspect for damage & ensure results are as per Dwg D212-664-241

210 - Spray Paint (Spray Paint / NDT Room) *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

220 - (QC14- Inspect Spray Paint) Then, Wrap in plastic bag to protect from scratches

230 - (Crosstube) *****LAY DOWN CROSSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP, USE HOLE IN TAPE MESURE TO PUT IN PINS FOR LOCATING CENTER OF CROSSTUBE. ***** 1- Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg 2- Install supports with Proseal 890 per D212-664-241 and QSI 015 A/R Proseal 890 Batch: 5170010 EXP: 19/10 PROSEAL CURE TIME 72 HOURS: Start: 19-6-19 Finish: 19-6-19 3- Install clamps with rubber cushion (ENSURE CLAMPS ARE INSTALL ON TOP SIDE OF CROSSTUBE) using DT9565 as per Dwg D212-664-241. ***Torque all clamps to 80-100 IN-LBS.***

240 - QC5 (QC5- Inspect part completeness to step on W/O) ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.***

250 - Packaging1-3 (Pick Kit)

260 - QC4 (QC4- 100% Inspect kits for completeness ***VERIFY BY _____ BATCH # TO MATCH W/O

270 - Packaging3-1 (Identify as per dwg & Stock Location: _____) Identify and pack for shipping as per PPP D212-664-201 Location : FG098

275 - (Document Control) Photocopy bluefile and create labels as per PPP D212-664-201 CHG006

280 - (QC21- Final Inspection - Work Order Release)

Job BOM

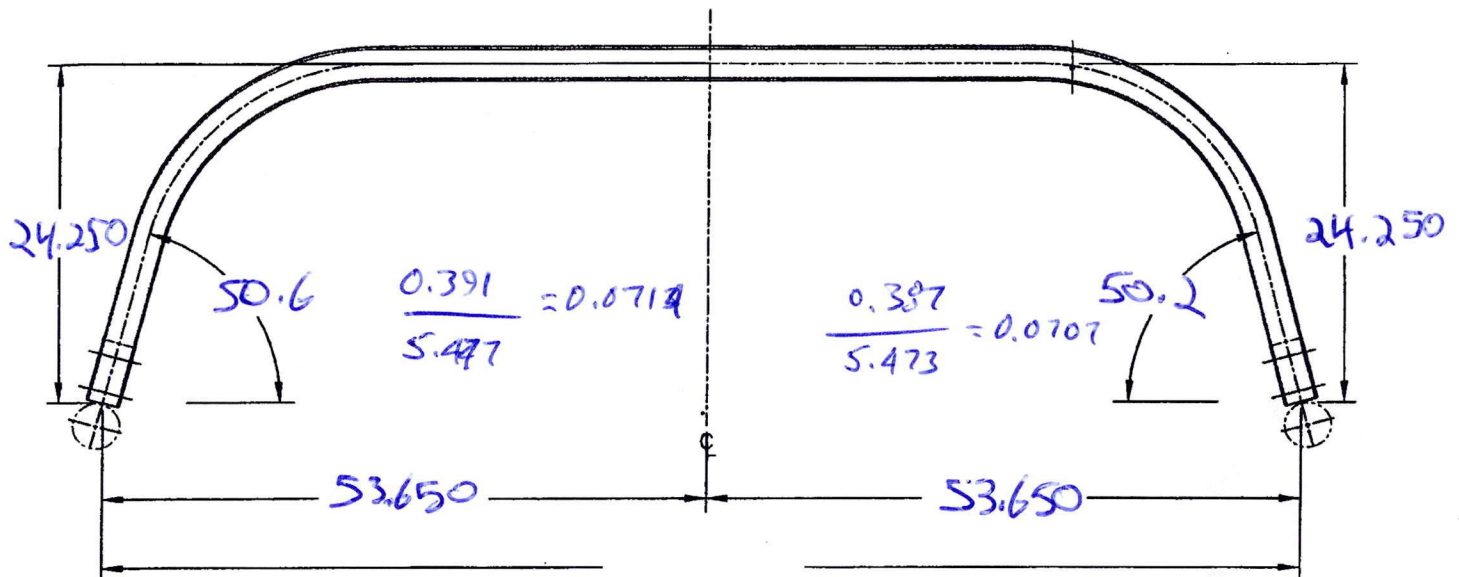
Part / Item	Component Name	Quantity	Operation	Container
D212-664-201TRN	Crosstube Turning Detail	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	5152664
D2940-1	Support	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	
D3595-063-530	Rubber Cushion 0.63" Wide X 5.30" Long	4 pcs (4 ea)	230-Crosstubes - 4 - B4B	
MS21920-28	Clamp	4 Ea (4 ea)	230-Crosstubes - 4 - B4B	
AN6-40A	3/8-24 Bolt X 3" Long	4 Ea (4 ea)	250-Packaging 1-2 - Pick Kit - B4B	5171903
AN6-41A	Bolt	2 Ea (2 ea)	250-Packaging 1-2 - Pick Kit - B4B	5149318
D3428-1	Placard	1 pcs (1 ea)	250-Packaging 1-2 - Pick Kit - B4B	512841
MS21042L6	Nut	6 Ea (6 ea)	250-Packaging 1-2 - Pick Kit - B4B	5182056
NAS1149D0663J	Washer	18 Ea (18 ea)	250-Packaging 1-2 - Pick Kit - B4B	5135105

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit 230-Crosstubes - 4 - B4B	D212-664-201TRN	1	2	0
	D2940-1 <i>5172578</i>	<i>2</i>	12	0
	D3595-063-530 <i>5151475</i>	<i>4</i>	47	0
	MS21920-28 <i>5177274</i>	<i>4</i>	162	0
250-Packaging 1-2 - Pick Kit - B4B	AN6-40A	4	100	0
	AN6-41A	2	55	0
	D3428-1	1	26	0
	MS21042L6	6	449	0
	NAS1149D0663J	18	1,034	0
Part Specifications				
Specifications could not be found.				

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DART AEROSPACE LTD	Work Order:	195760
Description: Crosstube High Aft (205/212)	Part Number:	D212-664-201
Inspection Dwg: D212-664-241	Rev: E	Page 1 of 1

Required Dimension	Min	Max
Height	24.17	24.43
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70
Bending Passes	5	--
Crushing	--	7.2%



2.543
2.934

	Side A	Side B
Bending Passes	17	17
Crushing	7.1%	7.1%
Comments		

2.543
2.938

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM	
C	10.04.01	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing dimensions	KJ	
E	14.07.08	Crushing percentage revised	KJ	

Item	Qty -241	Qty -241B	Part Number	Description
1	X		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2		X	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	1	D6006-129	CROSSTUBE
4	2		D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6		2	D5018-1	SUPPORT
7	4	4	MS21920-28	CLAMP (OR MS21920-30)
8	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6006-129
FINISHED LENGTH = 124.382±0.020
- 2) FINISH: a) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
b) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
c) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2 / C6-3, HATCHED AREA)
d) PAINT OUTSIDE PER DART QSI 005 4.2
e) REMOVE MASKING AND APPLY MATTE CLEAR COAT
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-241/-241B = 44.2 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

MACHINING

- 10) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.

BENDING

- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2% (BASED ON O.D.) IN LOWER HALF OF R35.5 BEND AND 6% (BASED ON O.D.) ON REMAINING TUBE.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

ASSEMBLY

- 13) INSTALL D2940-1 / D5018-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 14) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

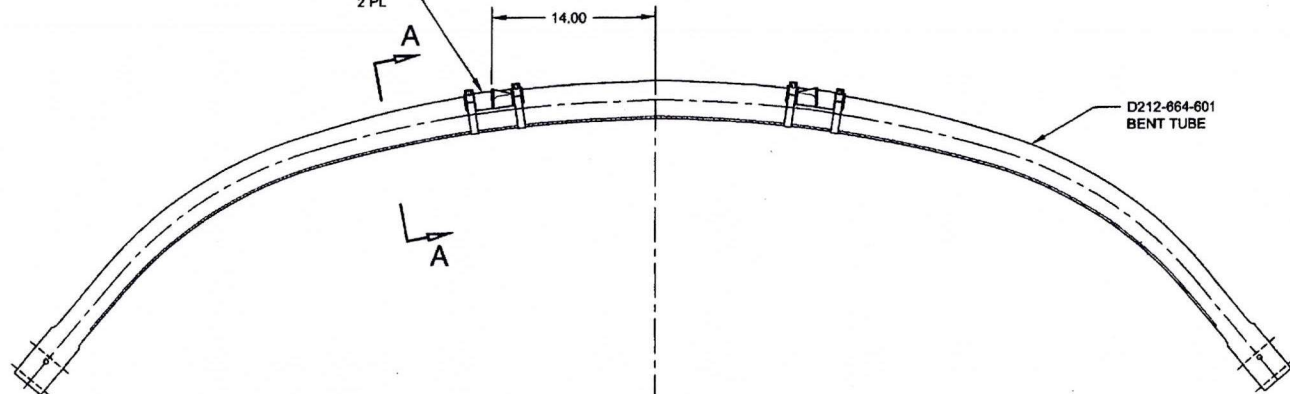
RELEASED
2014-05-26

E	D5018-1 WAS D2940-1 (-241B), PROSEAL WAS MAGNOBOND, NOTE 2: ADD INSPECTION WINDOW, NOTE 11: ALLOW 7.2% CRUSH, NOTE 15: ADD 72HR CURE AND RETORQUE FOR PROSEAL, ADD SHEET 3, CLAMPS REVERSED TO PREVENT CHAFING (ZN B7-2, B7-3), BEND HEIGHT TOL. NOW 0.25 WAS 0.13 (C1-4), INCORP DEO D-1/-2	CP	14.04.01
D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -241B (ZN D4-2, B4-2); REMOVED REF & ADD TOLERANCES (ZN D8-3 & C4-3, C6-3 & A8-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 8398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	CP	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	14.04.01		

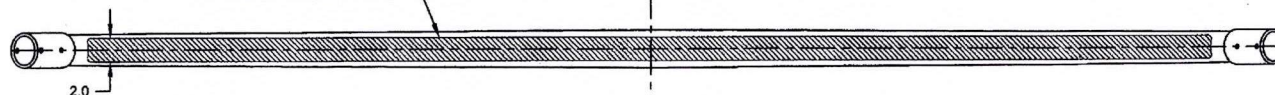
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D212-664-241	REV. E SHEET 1 OF 5
TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	SCALE NTS
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8 7 6 5 4 3 2 1

13 14 15
D2940-1 SUPPORT
MS21920-28 CLAMP, 2X
D3595-063-530 RUBBER CUSHION, 2X
2 PL



MASK AREA PRIOR TO PAINTING,
REMOVE MASKING AFTER PAINT
AND APPLY CLEAR COAT

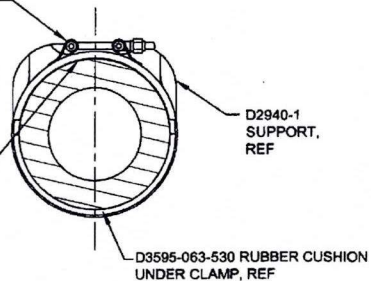


SYM

**D212-664-241
ASSEMBLY DETAIL**

E MS21920-28
CLAMP, REF
14 15

E 13
APPLY PROSEAL
BETWEEN D2940-1 AND
CROSSTUBE

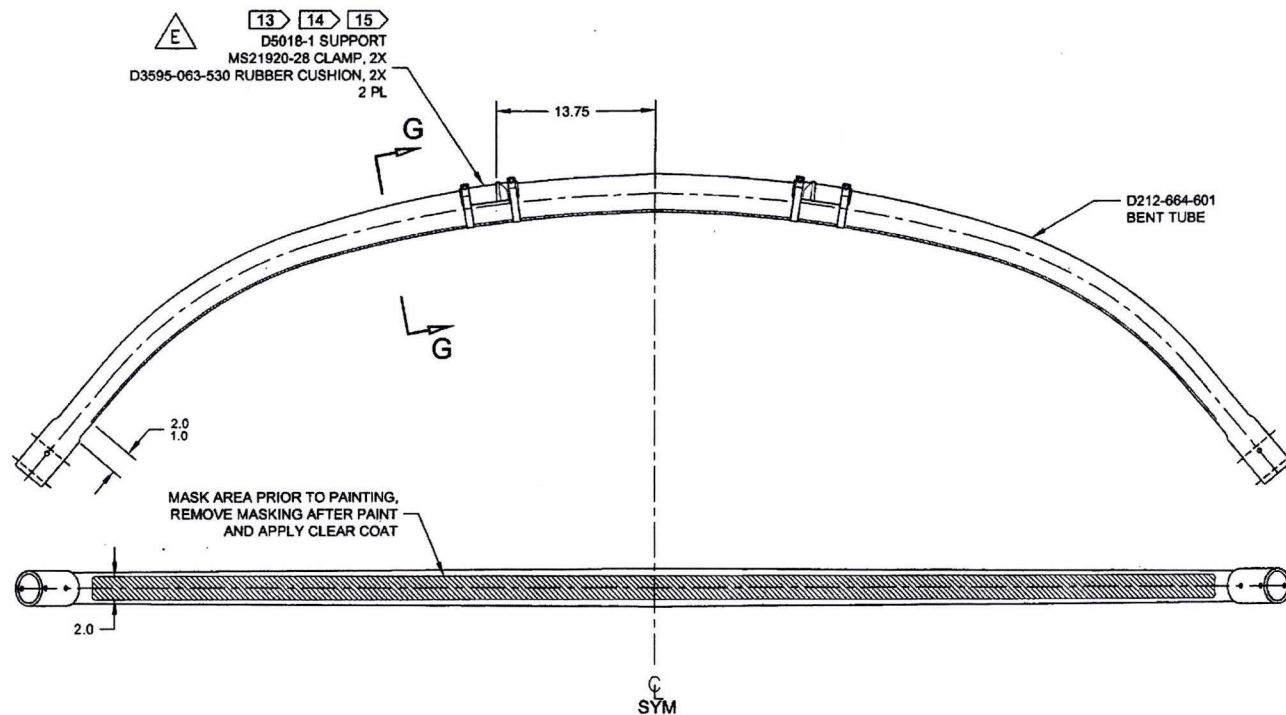


**SECTION A-A
SCALE 4X**

RELEASED
2014-05-26

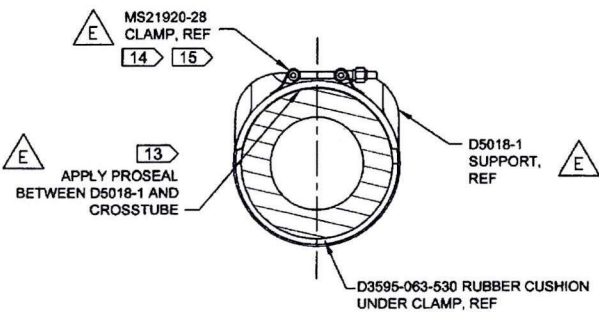
DESIGN	9	DART AEROSPACE LTD	
DRAWN	9	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DL	DRAWING NO.	REV. E
MFG. APPR.		D212-664-241	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
DATE	14.04.01	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1



**D212-664-241B
ASSEMBLY DETAIL**

RELEASED
2014-05-26



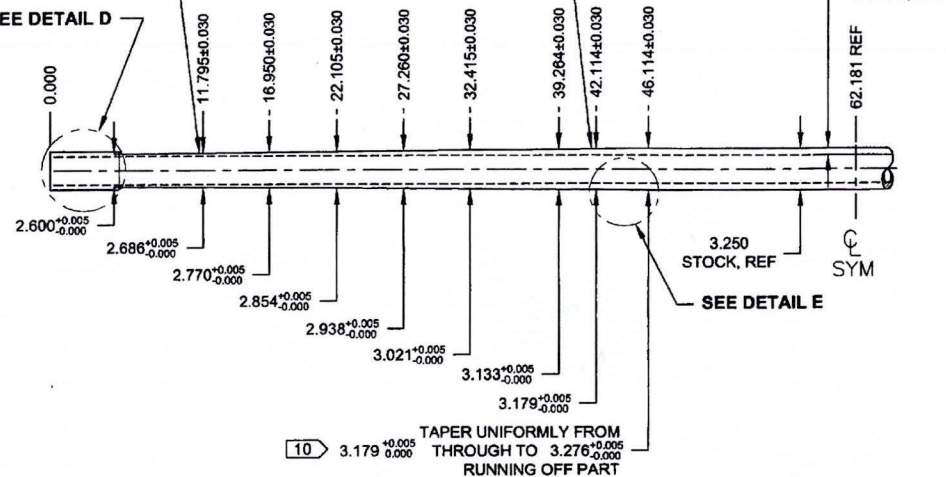
**SECTION G-G
SCALE 4X**

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D212-664-241	SHEET 3 OF 5
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
DATE	14.04.01	COPYRIGHT © 2000 BY DART AEROSPACE LTD	
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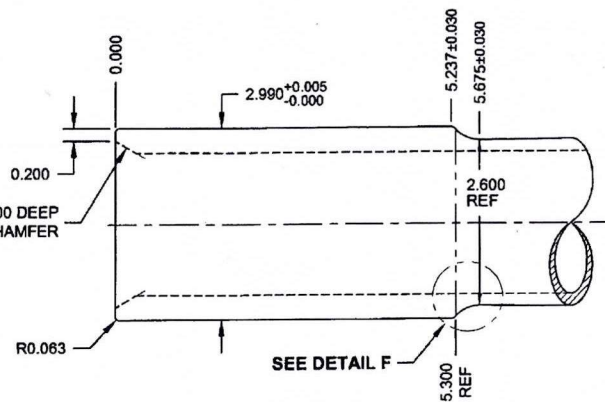
R100.0 TRANSITION
BETWEEN TAPERED
SECTIONS

R100.0 TRANSITION
BETWEEN TAPERED
SECTIONS

SEE DETAIL D

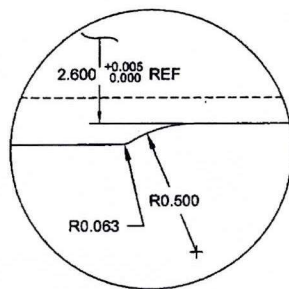


10
30° X 0.500 DEEP
CHAMFER

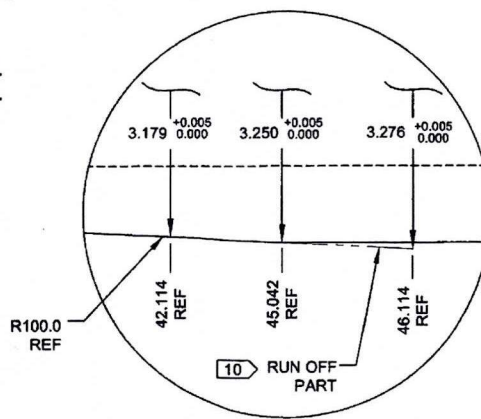


DETAIL D:
CROSSTUBE CUFF
SCALE 5X

D212-664-241TRN
TURNING DETAIL



DETAIL F:
CUFF TRANSITION
SCALE 10X



DETAIL E:
TAPER RUN-OFF
NOT TO SCALE

RELEASED
2014-05-26

DESIGN	<i>Q</i>	DART AEROSPACE LTD	
DRAWN	<i>Q</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>Q</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>[Signature]</i>	D212-664-241	SHEET 5 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
DATE	14.04.01	COPYRIGHT © 2000 BY DART AEROSPACE LTD	
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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER POHB043652



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB043652
PO Date: 6/6/19
Due Date: 6/6/19
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Guerin, Kimberley
Phone: kguerin@dartaero.com
Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	191954	D5610-1TRN	EC130 Aft Crosstube Turning Detail : Various STC's ISSUE P/O: _____	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
2	185902	D412-664-403	412 Stainless Steel Aft Crosstubes - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	185904			Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	185905			Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Sub Total:							3	0	3		\$358.50

3	185904	D412-664-403	412 Stainless Steel Aft Crosstubes - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17	Cancelled	-	6/6/19	0 pcs	0 pcs	0 pcs	\$119.50/pcs	\$0.00
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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER POHB043652



Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	185905	D412-664-403	412 Stainless Steel Aft Crosstubes - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17	Cancelled	-	6/6/19	0 pcs	0 pcs	0 pcs	\$119.50/pcs	\$0.00
5	195364	D212-664-201	Aft Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17 ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: _____ LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	195366			Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Sub Total:							2	0	2		\$239.00
6	195366	D212-664-201	Aft Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17 ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: _____ LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Cancelled	-	6/6/19	0 pcs	0 pcs	0 pcs	\$119.50/pcs	\$0.00

1 X JUN 07 2019

DAS
68
9-89



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER POHB043652



Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
7	195393	D206-667-207BL	Aft Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	195394			Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Sub Total:							2	0	2		\$239.00

8		D206-667-207BL	Aft Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Cancelled	-	6/6/19	0 pcs	0 pcs	0 pcs	\$119.50/pcs	\$0.00
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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043652



Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
9	195391	D206-667-107BL	Fwd Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	195392			Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Sub Total:							2	0	2		\$239.00

Grand Total: \$1,195.00

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 6/7/19 3:55 PM dart.belanger.natasha



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043652



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB043652

PO Date: 6/6/19

Due Date: 6/6/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	191954	D5610-1TRN	EC130 Aft Crosstube Turning Detail : Various STC's ISSUE P/O: _____	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
2	185902	D412-664-403	412 Stainless Steel Aft Crosstubes - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
3	185904	D412-664-403	412 Stainless Steel Aft Crosstubes - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
4	185905	D412-664-403	412 Stainless Steel Aft Crosstubes - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50



Dart Aerospace Ltd.
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Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043652



Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5	195364	D212-664-201	Aft Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA- 316/2015 15/06/17 ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: _____ LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
6	195366	D212-664-201	Aft Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA- 316/2015 15/06/17 ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: _____ LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
7	195393	D206-667-207BL	Aft Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043652



Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	195394	D206-667-207BL	Aft Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
9	195391	D206-667-107BL	Fwd Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
10	195392	D206-667-107BL	Fwd Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	6/6/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Grand Total:											\$1,195.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043652



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 6/7/19 1:49 PM Dart.Guerin.Kimberley

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO40659	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: POHB043652 ✓
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT ON 10 CROSSTUBES AS PER POHB043652

2 FWD CROSSTUBES , P/N# D206-667-107BL , J/S# 195391 , 195392

2 AFT CROSSTUBES , P/N# D206-667-207BL , J/S# 195393 , 195394

2 AFT CROSSTUBES , P/N# D212-664-201 , J/S# 195364 , 195366

3 AFT CROSSTUBES (412 STAINLESS STEEL) , P/N# D412-664-403 , J/S# 185902 , 185904 , 185905

1 EC130 AFT CROSSTUBE , P/N# D5610-1TRN , J/S# 191954

Action Taken:	Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16 NO CRACK OR CORROSION FOUND PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142	RECEIVED JUN 07 2019 DART AEROSPACE LTD.	JUN 06 2019

Description	Location	P/N	Qty	Batch	S/N Off	S/N On

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date: JUN 06 2019
Name: RAFIK MELIKIAN		

PAGE 1 OF 1

Description: CROSSTUBE INSTALLATION, HIGH AFT

H:\Forms\Engineer\Approved Eng Online\CHGREC revB